What is claimed is:

1. An elastomeric ejection system for launching bodies from a submarine, said system comprising:

a charging pump for transferring seawater from outside a pressure hull of the submarine to an ejection tank defined at least in part by an elastomeric wall; and

a check valve adapted to open to permit said charging pump to transfer the seawater to said ejection tank, and adapted to close upon filling of said ejection tank and expanding of said elastomeric wall, said valve having:

a head;

a seat portion;

a stem portion having fixed thereon said head and a disk having a circular protrusion extending toward said valve seat portion;

an annular cup stationarily mounted around said stem portion and having a circular depression in a surface thereof, said depression configured complementarily to said disk

protrusion, and flow restrictive holes disposed in said cup and radially extending from said depression to an outer wall of said cup;

whereby in closure of said check valve, said disk circular protrusion enters said cup depression, forcing seawater in said depression to exit said cup through the primary flow restriction of the annular path between said disk circular protrusion and said cup depression and the secondary flow restriction of said radially extending holes, to slow said valve stem portion, and thereby said valve head in movement into engagement with said valve seat portion.

2. The system in accordance with claim 1 wherein said disk protrusion decreases in cross-section from said disk toward a distal end of said protrusion.

3. The system in accordance with claim 2 wherein said disk protrusion cross-section is substantially paraboloid shaped.

4. The system in accordance with claim 1 wherein said holes in said cup extend radially from said depression to said outer wall of said cup.

5. The system in accordance with claim 1 wherein said holes extend from a bottom portion of said depression.

6. The system in accordance with claim 5 wherein said holes permit less than free-flow of the seawater from said depression.

7. The system in accordance with claim 1 wherein said cup and said disk are of metal.

8. An elastomeric ejection system for launching bodies from a submarine, said system comprising:

a charging pump for transferring seawater from outside a pressure hull of the submarine to an ejection tank defined at least in part by an elastomeric wall;

an impulse tank for receiving water under pressure from said ejection tank;

a launch tube for storing a body to be launched;

a slide valve for placing said impulse tank in communication with said launch tube to permit water from said impulse tank to enter said launch tube to force the body out of said launch tube; and

a check valve adapted to open to permit said charging pump to transfer the water from outside the submarine pressure hull to said ejection tank, and adapted to close upon filling of said ejection tank and selected expansion of said elastomeric wall thereof, said check valve having a seat portion and a stem portion, said stem portion having a head at a distal end thereof for engaging said valve seat portion in closure of said valve; said valve further comprising:

a disk fixed on said stem portion and having a circular protrusion extending toward said valve seat portion;

an annular cup mounted in said check valve and having a circular depression in a surface thereof configured complementarily to said disk protrusion creating a primary flow restriction to flow during closure; and

flow restriction holes defined by said cup and extending radially from said depression to an outside wall of said cup creating a secondary flow restriction to flow during closure;

whereby in closure of said check valve, said disk circular protrusion enters said cup depression, forcing seawater in said depression to exit said cup through said primary flow restriction of an annular gap between said disk circular protrusion and said cup depression and said secondary flow restriction of said radially extending restriction holes, to slow the movement of said valve stem portion, and thereby said valve head, in movement into engagement with said valve seat portion.

9. The system in accordance with claim 8 wherein said disk protrusion decreases in cross-section from said disk toward a distal end of said protrusion.

10. The system in accordance with claim 9 wherein said disk cross-section is substantially paraboloid shaped.

11. The system in accordance with claim 8 wherein said holes in said cup extend radially from said depression to said outer wall of said cup.

12. The system in accordance with claim 8 wherein said holes extend from a bottom portion of said depression.

13. The system in accordance with claim 12 wherein said holes permit less than free-flow of the seawater from said depression.

14. The system in accordance with claim 8 wherein said cup and said disk are of metal.

15. A spring-activated check valve for use in a pressurized fluid system, said check valve comprising:

a head;

a seat;

a stem having fixed thereon said head and including a disk with a circular protrusion extending toward said seat;

an annular cup mounted in encompassment of said stem, said annular cup having a circular depression in a surface thereof, said depression complimentarily in shape to said disk protrusion with holes disposed in said annular cup and radially extending from said depression to an outer wall of said cup;

whereby during a closure of said check valve by said spring-action, said disk protrusion releasably mates to said depression thereby forcing any of the fluid in said depression through a primary restrictive area of an annular gap between said disk protrusion and said depression and a secondary restrictive area of said radially extending holes in relation to the surface area of said cup thereby dampening the engagement of said head with said valve seat during said closure.

16. The check valve in accordance with claim 15, wherein said disk protrusion decreases in cross-section to said seat.

17. The system in accordance with claim 16 wherein said disk protrusion cross-section is substantially paraboloid shaped.

18. The system in accordance with claim 17 wherein said holes extend radially from said depression to the outer wall of said cup.

19. The system in accordance with claim 18 wherein said holes extend from a bottom portion of said depression.